Index

2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD), 39, 115, 132, 133
N-Acetyl-β-D-glucosaminidase (NAG), 171, 176

Achilles heel, 124
Acute respiratory infections (ARI), 96, 97, 212
Agricultural chemicals, 204–205
Ahlbom A & Feychting M: Electromagnetic radiation, 157–165
Air Pollution and Health: a European Approach (APHEA), 98, 101, 146, 147, 148, 150
Air pollution and industrial pollution sources, 37–38
Air pollution and infection in respiratory illness: **Chauhan AJ & Johnston SJ,** 95–112
  combustion of biomass fuels and infections, 97–98
  contemporary indoor and outdoor pollutants and infections, 98–99
  controlled exposure and infection studies, 102–104
  future, 109
  improving air quality improve health, 108–109
  lesson from history, 95–96
  link with infection, 99–102
  mechanisms of interaction between infection and air pollution, 104–108
Air pollution risk transition, 222
Airway hyperresponsiveness, 227, 228, 233, 237
Allergen
  exposure, 233–234
  hypothesis, 233, 234
Allergic contact dermatitis (ACD), 130
Allergic skin reactions, 130
Alveolar macrophages (AMs), 106
Amalgam disease, 173
Ambient air pollution and health: **Katsouyanni K,** 143–156
Ambient particles, 144
  current guidelines and regulations for, 145–146
  measurement, sources, distribution and relevant components of the particle mix, 144–145
Animal infectivity models, 104–105
Anomalies of the male genitalia, 55–56
  genetic factors, 55–56
  trends and spatial/ethnic variation, 55
Arsenic, 178–179, 203
  health effects, 179
  occurrence, exposure and dose, 178–179
Asthma
  definitions of, 227–228
  measuring, 228–229
Asthma: environmental and occupational factors: **Cullinan P & Taylor AN,** 227–238
Atmospheric emissions by source in the European Union, 6
Atopic dermatitis (AD), 129, 130–131

Benzo(a)pyrene, 136
Biological process, 59–70
Black Smoke (BS), 144
Boffetta P & Nyberg F: Contribution of environmental factors to cancer risk, 71–94
Briggs, D: Environmental pollution and the global burden of disease, 1–24
By-products of water treatment, 205

Cadmium, 170–172
  health effects, 171–172
  occurrence, exposure and dose, 170–171
Cancer, 172
Cancer dose–response, forms of, 268–269
Cancer risk across populations, projection of, 270–271
Carbon monoxide (CO), 97, 152–153, 210
  health effects, 153
  measurement, sources, and distribution, 152
  regulations, 152
Carboxyhaemoglobin (COHb), 152, 153

British Medical Bulletin, Vol. 68 © The British Council 2003; all rights reserved

Chauhan AJ & Johnston SJ: Air pollution and infection in respiratory illness, 95–112
Chemical
contaminants, 202–206
depigmentation, 133–134
Chernobyl incident, 8
Childhood wheeze, 231
Chloracne (halogen acne), 131–133
Chlorofluorocarbons (CFCs), 139, 140
Chronic obstructive pulmonary disease (COPD), 97, 101, 147, 212
Clinical and public health practice, implications for, 41–42
Clinical practice, key points for, 140, 272–273
Clover Disease, 49
Combined effects of noise exposure and other stressors, 249–250
Confidence interval (CI), 192
Confounder, 30
Congenital anomalies, 27
sources of pollution and their impact on, 31–40
Contaminants in drinking water: **Fawell J & Nieuwenhuijsen MJ**, 199–208
Contamination of food, 38
Contribution of environmental factors to cancer risk: **Boffetta P & Nyberg F**, 71–94
environmental exposure to asbestos, 72–74
exposure to environmental tobacco smoke, 80–81
inorganic arsenic in drinking water, 83–85
other drinking water pollutants, 86–88
other sources of indoor air pollution, 82–83
outdoor air pollution, 74–80
residential radon exposure, 81–82
water chlorination by-products, 85–86
Cryptorchidism, 32, 55, 58, 59, 60, 65, 206
Cullinan P & Taylor AN: Asthma: environmental and occupational factors, 227–238

Dawe RS *see* **English JSC**
Dermatitis, 129
Deterministic effects, 260–262
Dibromochloropropane (DBCP), 51, 56
Diethylstilboestrol (DES), 49, 50, 60
Dioxin, 62
Disability-adjusted life years (DALYs), 1, 17, 18, 19, 20, 21
Distributions, 229–232
age, 229–230
family history, 232
family size, 231–232
place, 230
sex, 230
time, 230–231
Dolk H & Vrijheid M: The impact of environmental pollution on congenital anomalies, 25–45
Dose–rate effectiveness factor (DDREF), 268, 269
Dose–response relationship, 11, 12, 13, 40, 100, 117, 118, 144, 172, 246, 248, 249
Down Syndrome, 28, 30, 33, 34, 40
Drinking water contamination, 33–34

Effects of known agents, 48–51
infertility in females, 48–51
infertility in males, 51
Electromagnetic fields (EMF), 157, 158, 163
Electromagnetic radiation: **Ahlbom A & Feychting M**, 157–165
balancing risk, 163–164
electromagnetic spectrum and low frequency fields, 158–159
established mechanisms of interaction, 159
potential health risks from weak long-term exposure: ELF, 160–161
potential health risks from weak long-term exposure: RF, 161–163
Elliott P *see* **Rushton L**
Emission processes and exposure pathways, model of, 15
End stage renal disease (ESRD), 171
Endocrine disrupters, 206
Endocrine disruption, 59–61
anti-androgens and other types of endocrine disruption, 60–61
expected spectrum of effects, 61
oestrogens, 59–60
Endocrine disruptors, 49
Endocrine responses to noise, 247
English JSC, Dawe RS & Ferguson J: Environmental effects and skin disease, 129–142

Environmental effects and skin disease: **English JSC, Dawe RS & Ferguson J**, 129–142
Environmental explanations, 233
Environmental health risks, challenges and future developments of, 123–127
  data availability and quality, 123–124
  data protection and confidentiality, 124–125
  dealing with uncertainties, 125–126
  molecular epidemiology, 125
  role of systematic review and meta-analysis, 126–127
Environmental media, sources and pathways of emission, 5
Environmental pollution
  and health, 2–14
  disasters involving, 39–40
Environmental pollution and the global burden of disease: **Briggs, D**, 1–24
Environmental Protection Agency (EPA), 217
Environmental tobacco smoke (ETS), 72, 80, 81, 152, 213, 214, 215
Epidemiological characteristics of the responsible agent(s), 57–59
  heritability, 58–59
  question of linkage, 57–58
Epidemiological literature, limitations of the, 26–31
Epidemiological study designs, 120
Epidemiology: conditions affecting the male reproductive system, 51–59
Epithelial interaction, 106–108
Essential elements of assessing risk, 118
EUROCAT data, 27
Evaluating evidence on environmental health risks: **Rushton L & Elliott P**, 113–128
  general considerations, 114–117
  human study methods, 119–123
  risk assessment methodology, 118–119
Excess relative risk (ERR), 264, 265
Exposure–response relationships, 11, 168, 179, 180, 206, 234
Exposure–side indicators, 16

Farmer's lung, 13
Fawell J & Nieuwenhuijsen MJ: Contaminants in drinking water, 199–208
Ferguson J *see* **English JSC**
Fertility and semen quality, 51–53
  genetic factors, 53
  spatial variation, 53
  trends, 52–53
Feychting M *see* **Ahlbom A**
Fluoride, 203

Gene for infertility, 58
Genetic damage, 62–66
  hypothesis, 62–64
  mechanism and genomic localization, 64–66
Germ line genetic damage, 63
Global burden of disease, 14–22
  environmental burden of disease, 18–22
  estimation of, 14–18
Global Burden of Disease, 147
Global health concern in the future, 220–223
Global production and consumption of selected toxic metals, 169
Glomerular filtration rate (GFR), 171
Great Smog, 95

Harvesting effects, 12
Hazards of heavy metal contamination: **Järup L**, 167–182
Health effects, 260–272
  ambient particle concentrations, 146–147
Health hazards and waste management: **Rushton L**, 183–197
Health outcomes, 115–116
Henderson's hypothesis, 59, 60
Heritable genetic effects, 263–264
High atmospheric ozone and lower atmospheric pollution, 140
Hygiene hypothesis, 234–237
Hypospadias, 27, 32, 36, 55, 56, 59, 60, 65, 189, 206

Impaired bronchial immunity, 105
Incineration, 190–193
  health effects in communities, 191–192
  individual pollutants, 190–191
  worker populations, 192–193
Indoor
  inorganic contaminants, 215–218
  organic contaminants, 218–220
  smoke from burning solid fuels, 211–213

Indoor air pollution: a global health concern: **Zhang J & Smith KR**, 209–225
Infertility and environmental pollutants: **Joffe M**, 47–70
Inorganic mercury, 173–174
Intake fraction, 221
Intercellular adhesion molecule 1 (ICAM-1), 107
International Agency for Research on Cancer (IARC), 161, 163, 172, 177, 218
International Commission on Radiological Protection (ICRP), 261, 265, 268, 271
International Radiation Study of Cervical Cancer patients (IRSCC), 265
Interquartile range (IQR), 101
Ionizing radiation, types, sources, units of, 259–260
Iron and manganese, 204
Irritant contact dermatitis (ICD), 129
Itai-itai (ouch-ouch) disease, 171

Järup L: Hazards of heavy metal contamination, 167–182
Joffe M: Infertility and environmental pollutants, 47–70
Johnston SJ *see* **Chauhan AJ**

Katsouyanni K: Ambient air pollution and health, 143–156

Lead, 174–177
  concentrations in petrol and children's blood, 175
  health effects, 176–177
  occurrence, exposure and dose, 174
Life Span Study (LSS), 260
Lipopolysaccharide (LPS), 106
Little MP: Risks associated with ionizing radiation, 259–275
Low-dose reactive airways syndrome, 238
Low linear energy transfer (LET), 260

Magnetic resonance imaging (MRI), 159
Matheson MP *see* **Stansfeld SA**
Mercury, 172–174
  occurrence, exposure and dose, 172–173
Meteorological Synthesizing Centre-East (MSC-E), 169
Microbial contamination, 200–202
Monocytes (Mo), 106
Municipal solid waste (MSW), 184, 192
Murine cytomegalovirus (MCMV) infection, 105

National Mortality, Morbidity and Air Pollution Study (NMMAPS), 146, 147, 148
Natural killer (NK) cells, 105
Nature of exposure, 116–117
Nieuwenhuijsen MJ *see* **Fawell J**
Nitrogen dioxide (NO_2), 97, 98, 99, 149–151, 210
  health effects, 150–151
  measurement, sources and distribution, 149
  regulations, 149–150
No Observed Adverse Effect Level (NOAEL), 118, 119
Noise and cardiovascular disease, 245
  noise and cardiovascular disease in the community, 247
  occupational studies: noise and high blood pressure, 245–247
  physiological responses to noise exposure, 245
Noise and non-auditory health effects in children, 250–253
  cardiovascular effects, 252
  cognition, 250–252
  endocrine disturbance, 253
  motivation, 252
  noise annoyance, 253
Noise and psychiatric disorder, 248
  acoustic predictors of noise annoyance in community surveys, 249
  and common mental disorder, 248–249
  and sleep disturbance, 244–245
  annoyance, 249
  exposure and psychological symptoms, 248
Noise exposure and performance, 245
Noise pollution: non-auditory effects on health: **Stansfeld SA & Matheson MP**, 243–257
Non-auditory effects of noise on health, 244–247
Non-cancer late health effects, 272

Non-methane volatile organic compounds (NMVOCs), 6
Non-specific-building-related illness (NSBRI), 219, 220
Nyberg F *see* **Boffetta P**

Obstructive bronchitis, 99
Occupational asthma, 234, 237, 238
Oestrogen hypothesis, 60, 66
Organic mercury, 174
Ozone (O_3), 147–149, 215
  health effects, 148–149
  measurement, sources and distribution, 147–148
  regulations, 148

Peak expiratory flow (PEF), 102
Pesticide
  aggregate exposure assessment of, 117
  in agricultural areas, 37
Pollutants: effects on high atmospheric ozone, 139–140
Polychlorinated biphenyls (PCBs), 26, 34, 36, 38, 39, 49, 51, 62, 131, 132, 186, 191
Polycyclic aromatic hydrocarbons (PAHs), 36, 145, 186, 187, 212, 218
Polymorphic light eruption (PLE), 140
Polyvinyl chloride (PVC), 216

Radiation-associated cancer risk, interaction of
  with cancer-prone disorders, 272
  with chemotherapy, 271
  with smoking and other lifestyle factors, 271
Radiation Effects Research Foundation (RERF), 273
Radiation-induced cancer, temporal patterns of risk for, 265–268
Radiofrequency (RF), 158, 159, 161, 162, 163
Reactive airways dysfunction syndrome, 238
Relative biological effectiveness (RBE), 260
Relative risk (RR), 74, 121, 265, 270, 272
Respiratory irritants, 237–238
Respiratory syncytial (RS), 101, 102, 107
Risks associated with ionizing radiation: **Little MP**, 259–275
Rushton L & Elliott P: Evaluating evidence on environmental health risks, 113–128
Rushton L: Health hazards and waste management, 183–197

Scleroderma-like disease, 134
  Quartz induced, 134–135
Selenium and uranium, 203
Semivolatile organic compounds (SVOCs), 211
Sensitive period, 26
Sequences, 27
Sex ratio, 56
  spatial and other variation, 56
  trends, 56
Sick building syndrome, 211
Single-nucleotide polymorphisms (SNPs), 64
Skin cancer, 136–138
Smith KR *see* **Zhang J**
Smoky coal, 212
Somatic effects (cancer), 264–265
Source–effect chain, 3–14
  atmospheric emissions, 3–7
  emissions to surface water, groundwater and soil, 7
  environmental fate, 7–9
  exposure and dose, 9–10
  health effects: dose–response relationships, latency and attributable risk, 11–13
  models of pollutant pathways, 13–14
Specific absorption rate (SAR), 159
Sperm chromatin stability assay (SCSA), 65
Standardized Mortality Ratio (SMR), 192
Standardized test scores (SATs), 251
Stansfeld SA & Matheson MP: Noise pollution: non-auditory effects on health, 243–257
Stochastic effects, 262–272
Sulphur dioxide (SO_2), 96, 97, 143, 191, 213
  health effects, 151–152
  measurement, sources, and distribution, 151

regulations, 151
Sunlight effects on the skin, 138–139

T helper 1 (Th1), 130
T helper 2 (Th2), 130
Taylor AN *see* **Cullinan P**
Testicular cancer, 53–54
  genetic factors, 54
  spatial and ethnic variation, 54
  trends, 54
Testicular dysgenesis syndrome, 55
Texan sharpshooter, 31
The impact of environmental pollution on congenital anomalies: **Dolk H & Vrijheid M**, 25–45
Total particle mass (TSP) concentration, 145
Total volatile organic compounds (TVOC), 219
Trihalomethanes (THM), 34
Tumour necrosis factor-α (TNF-α), 106

Ultraviolet and visible rays, 138
United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), 263, 264, 268, 269, 271
Urban pollution, 205
US Centre for Disease Control and Prevention (CDC), 214

Vibration white finger (VWF), 135, 136
Volatile organic compounds (VOCs), 186, 211, 219, 220
Vrijheid M *see* **Dolk H**

Waste disposal (landfill sites and incinerators) and contaminated land, 34–37
Waste management, 183
  hazardous substances associated with, 185–187
  methods of, 184–185
Waste management practices on health, 187
  birth defects and reproductive disorders, 188–189
  cancer, 189–190
  landfill sites, 187–188
  studies of self-reported health symptoms, 190
Waste production in England and Wales, 185
World Health Organization (WHO), 211

Years of life lost (YLL), 17
Yusho disease (oil disease), 39

Zhang J & Smith KR: Indoor air pollution: a global health concern, 209–225